SYSTEM AND METHOD FOR GENERATING MULTIPLE SYNCHRONIZED ENCODED REPRESENTATIONS OF MEDIA DATA

Abstract of the Disclosure

The present invention provides a system and methods for producing multiple encoded representations of a video input sequence. The multiple representations produced each contain identified synchronization frames that allow a server and a client to switch between streamed representations in real time without interruption. Synchronization frames are frames of encoded video that can be independently decoded. A representation can thus be decoded starting at a synchronization frame. Each synchronization frame in one representation has a corresponding synchronization frame at a substantially similar temporal location in any other generated representation of the same video input sequence. The temporal co-location of synchronization frames in all representations facilitates the dynamic switching between representations during the streaming process. The present invention also provides a video encoder application that shares data during the encoding of multiple representations of a video input sequence by reusing data calculated in the encoding of one representation to encode other representations. The application can also generate the multiple encoded representations simultaneously.